CLAIMS

What is claimed is:

1. A tire tread, the tread having a plurality of ground engaging elastomeric elements, whereby at least one of the elements has a sipe, the sipe having a radial depth, a sipe face, an opposing sipe face, and a centerline located equidistant from the sipe faces, each sipe face has at least one horizontal row of alternating recesses and protrusions, each recess on one sipe face is aligned with a protrusion on the opposing face, wherein,

   each recess or protrusion terminates in a planar vertex spaced from the centerline, the planar vertex being parallel to the sipe centerline.

2. The tire tread of claim 1 wherein the sipe has a constant width.

3. The tire tread of claim 1 wherein each sipe face has at least two horizontal rows of alternating recesses and protrusions.

4. The tire tread of claim 3 wherein the recesses and protrusions in the at least two horizontal rows of alternating recesses and protrusions are alternating in the radial direction of the sipe.

5. The tire tread of claim 1 wherein the planar vertex has a polygonal configuration, whereby the polygonal configuration has at least four sides.

6. The tire tread of claim 5 wherein the polygonal configuration is selected from the group consisting of quadrilateral, pentagonal, hexagonal, heptagonal, octagonal, nonagonal, decagonal, hendecagonal, and dodecagonal.

7. The tire tread of claim 5 wherein the planar vertexes of the protrusions and recesses are a combination of different polygonal shapes.

8. The tire tread of claim 1 wherein the cross sectional area of the protrusions and recesses, as determined at the sipe centerline, decreases as the radial depth of the sipe increases.

9. The tire tread of claim 1 wherein each protrusion and recess has at least four planes extending at an angle from the sipe centerline to its planar vertex.

10. The tire tread of claim 9 wherein at least two of the planes are inclined at identical angles relative to the sipe centerline and as measured from within the protrusion or recess.

11. The tire tread of claim 9 wherein at least two of the planes are inclined at different angles relative to the sipe centerline and as measured from within the protrusion or recess.

12. The tire tread of claim 1 wherein the axial extent of the protrusions and recesses decreases with the radial depth of the sipe.

13. The tire tread of claim 1 wherein the width of the sipe increases to a maximum axial width as the radial depth of the sipe increases.

14. The tire tread of claim 1 wherein the radially inner portion of the sipe is branched into two portions, with the protrusion and recesses located radially outward of the two portions.

15. A mold blade for mounting inside a tire mold to form a sipe in a tire tread, the blade defined by a centerline and having planar portions and at least one three dimensional portion, wherein the three dimensional portion has at least one horizontal row of alternating recesses and protrusions, wherein each recess or protrusion terminates in a planar vertex spaced from the blade centerline and the planar vertex is parallel to the blade centerline.

16. The mold blade of claim 15 wherein the blade has a constant thickness.

17. The mold blade of claim 15 wherein the blade has at least two horizontal rows of alternating recesses and protrusions.

18. The mold blade of claim 15 wherein at the blade centerline, each recess and protrusion has a polygonal configuration.

19. The mold blade of claim 15 wherein the geometric configuration of the planar vertex of either a recess or a protrusion is similar to the geometric configuration of the recess or protrusion at the blade centerline.

20. The mold blade of claim 15 wherein the blade has at least one continuous horizontal row of alternating recesses and protrusions and at least one discontinuous row of alternating recesses and protrusions.